

## WHAT IS CLAIMED IS

1. A bearing device comprising a first bearing and a second bearing, wherein said first bearing and said second bearing are arranged one upon another in the axial direction of said bearing device, and said first bearing has a first retainer, and a plurality of first grooves are provided at the outer periphery of said first retainer, and said second bearing has a second retainer, and a plurality of second grooves are provided at the outer periphery of said second retainer, and said bearing device is configured in that balls are placed in said first grooves and said second grooves in such manner that a first segment connecting the center of said first retainer to said first groove does not overlap a second segment connecting the center of said second retainer to said second groove.

2. The bearing device of claim 1, wherein said first retainer and said second retainer are integrated.

3. The bearing device of claim 1, wherein when the number of said first grooves and said second grooves is  $N$  ( $N$  is 2 or larger integer) respectively, said first grooves and said second grooves are arranged at  $360/N$  (degrees) to each other at the outer periphery of a cylindrical retainer, and the first segment connecting the center of said first retainer to the first groove does not overlap the second segment connecting the center of the second retainer to the second groove, and the first segment and the second segment are apart from each other at an angle of  $360/(2N)$ .

4. The bearing device of claim 3, wherein the number  $N$  of grooves disposed at the peripheries of one end and the other end in the axial direction of rotation of said retainer is  $N = 3$  respectively.

5. A bearing device comprising a first bearing and a second bearing, wherein said first bearing and said second bearing are arranged one upon another in the axial

direction of said bearing device, and said first bearing has a first retainer, and a plurality of first grooves are provided at the outer periphery of said first retainer, and said second bearing has a second retainer, and a plurality of second grooves are provided at the outer periphery of said second retainer, and balls are placed in said  
5 first grooves and said second grooves in such manner that a first segment connecting the center of said first retainer to said first groove does not overlap a second segment connecting the center of said second retainer to said second groove, and an inner sleeve which supports an inner ring for balls of said first bearing and said second bearing and an outer sleeve which supports an outer ring for balls of  
10 said first bearing and said second bearing.

6. The bearing device of claim 5, wherein a groove recessed at the outer side of said inner ring is a curved recess whose section corresponding to the position of each ball has a curvature a little larger than the curvature of the ball, and a groove recessed at the inner side of said outer ring is a curved recess whose section  
15 corresponding to the position of each ball has a curvature a little larger than the curvature of the ball.

7. The bearing device of claim 5, wherein a groove recessed at the outer side of said inner ring is an outer peripheral groove whose section has a curvature a little larger than the curvature of the ball, and a groove recessed at the inner side of said  
20 outer ring is an inner peripheral groove whose section has a curvature a little larger than the curvature of the ball.

8. A head support device, wherein a first bearing and a second bearing are arranged one upon another in the axial direction of the bearing device, and said first bearing has a first retainer, and a plurality of first grooves are provided at the outer  
25 periphery of said first retainer, and said second bearing has a second retainer, and a

plurality of second grooves are provided at the outer periphery of said second retainer, and balls are placed in said first grooves and said second grooves in such manner that a first segment connecting the center of said first retainer to the first groove does not overlap a second segment connecting the center of said second  
5 retainer to the second groove, and said bearing device is connected to a support arm having a slider and a voice coil.

9. The head support device of claim 8, wherein a slider and a voice coil are arranged at positions apart from each other with the bearing device therebetween.

10. A recording/reproducing device comprising a recording medium and a  
10 rotation driving means for rotationally driving said recording medium, a support arm mounted with a slider and a voice coil, which has a head for reading information stored in said recording medium, and a head support device for driving said support arm, wherein said head support device comprises a bearing device provided with a first bearing and a second bearing, and said first bearing and said second bearing are  
15 arranged one upon another in a direction axial to said bearing device, and said first bearing has a first retainer, and a plurality of first grooves are provided at the outer periphery of said first retainer, and said second bearing has a second retainer, and a plurality of second grooves are provided at the outer periphery of said second retainer, and balls are placed in said first grooves and said second grooves in such  
20 manner that a first segment connecting the center of said first retainer to said first groove does not overlap a second segment connecting the center of said second retainer to said second groove, and said bearing device is connected to a support arm having a slider and a voice coil.